ELSEVIER

Journal of Alloys and Compounds 225 (1995) 643–644

Journal of ALLOYS AND COMPOUNDS

Author Index of Volume 225

Abraham, M.M., 595
Adachi, G., 363
Adam, J.L., 80
Aime, S., 274, 303
Alvarez, I., 212
Amberger, H.-D., 60
Anelli, P.L., 274
Antic-Fidancev, E., 95, 198
Anttila, R., 312
Ayala, J.D., 357

Baran, E.J., 237
Beaury, L., 28
Beitz, J.V., 45
Benetollo, F., 400
Bergman, J.P., 564
Bernal, S., 633, 638
Bernardinelli, G., 324
Bertacco, R., 432
Binnemans, K., 71, 80
Blasse, G., 24, 529
Blomberg, M., 599
Boatner, L.A., 595
Bombieri, G., 357, 400
Botana, F.J., 638
Botta, M., 274, 303
Boulon, G., 559
Boussac, A., 48
Bram, A., 599
Brenier, A., 559
Brewer, W.D., 456
Bruckner, M., 555
Bueno, I., 237
Bukietyńska, K., 52
Bünzli, J.-C.G., 324
Burdick, G.W., 115
Burriel, R., 203
Burzlaff, H., 599
Butorin, S.M., 230

Calvino, J.J., 633, 638
Campá, J.A., 225
Campbell, R.L., 291
Cao, R., 45
Carvalho Melo, W., 344
Cascales, C., 225
Castellano, E.E., 350, 354
Castro, M., 203
Chaminade, J.-P., 95
Chen, H.-F., 626
Chen, Q., 203
Chen, W., 539
Choppin, G.R., 242, 257
Chua, M., 20

Cifredo, G.A., 633
Ciunik, Z., 372
Colinet, C., 409
Czarnecki, R., 486

da Costa, Jr., N.B., 55
de Andrade, A.V.M., 55
De Andres, A., 208, 216
Dedecke, T., 152
De Leebeeck, H., 75
De Mello Donegá, C., 24
De Melo, C.V.P., 350
De Moraes, M., 267
Dereń, P.J., 111
Derouet, J., 28
de Sá, G.F., 55
Dhar, S.K., 571
Diviš, M., 578
Domingos, Â., 331
Dong, Y., 124, 539
Drożdżyński, J., 111, 338
Duczmal, M., 181
Duda, E., 623
Duhamel, N., 80
Duò, L., 432

Elbanowski, M., 486, 515
Elidrissi Moubtassim, M.L., 185
Eschrig, H., 469
Ettedgui, H., 156
Eyring, L., 139, 190

Fanghänel, T., 308
Faucher, M., 35
Favre, M., 246
Fedorov, V., 604
Fernandez, F., 203
Fischer, P., 440
Fluyt, L., 71
Fournier, M.T., 107
Fredo, S., 166
Frolovskaya, S.N., 396
Frota-Pessôa, S., 465
Furrer, A., 591

Gal, J., 166, 440
Gao, P., 363
Gao, S., 234, 385
Gatica, J.M., 633
Gawryszewska, P., 372
Geraldes, C.F.G.C., 303
Gervais, F., 216
Gignoux, D., 423

Godart, C., 571
Godlewski, M., 41, 544, 564
Görller-Walrand, C., 66, 71, 75, 80
Gorochov, O., 159, 461
Graeppi, N., 246
Gu, Z., 363
Guillaume, M., 591
Guo, J.-H., 230
Gupta, L.C., 571
Gutiérrez Puebla, E., 225

Haapakka, K., 279, 492, 497, 502
Haire, R.G., 142
Hakanen, A., 279
Halevy, I., 166
Hänninen, E., 511
Hanuza, J., 111, 338
Härkönen, G., 552
Hauf, S., 456
Havela, L., 444
Hedrick, J.B., 609
Heinze, Th., 178
Hemmilä, I., 480, 507
Hendorfer, G., 555
Hens, E., 66
Hernández-Velasco, J., 147
Herrero, P., 400
Hietapelto, V., 312
Hilscher, G., 578
Hnatejko, Z., 515
Holland-Moritz, E., 578
Hölsä, J., 89, 193
Hopfgartner, G., 324
Hossain, Z., 571
Huang, C., 385
Hugh Powell, D., 246
Huguenin, D., 520
Hurskainen, P., 489
Husztik, E., 619, 623

Imamura, H., 629
Ionashiro, M., 267
Isolani, P.C., 344, 347
Ivanov, I.A., 220
Iwamoto, K., 271

Jacquier, B., 15
Janczak, J., 338
Jantsch, W., 555
Jayasankar, C.K., 85
Ji, Y.-J., 626
Jiang, J., 363

Jones, D., 456
Jumas, J.C., 185

Kaczmarek, M., 486
Kamarzin, A.A., 567
Kang, Z.C., 190
Kankare, J., 511
Kanno, H., 253
Kapoor, J., 456
Karbowiak, M., 338
Kareiva, A., 586
Karpińska, K., 544, 564
Karppinen, M., 586
Kaszaki, J., 619
Kato, Y., 284, 308
Kestilä, E., 89, 193
Khairulin, R.A., 220
Khosla, A.N., 377
Kim, J.I., 261, 295, 308
Kimmel, G., 166
Kimura, T., 284
Klenze, R., 261, 308
Kockelmann, W., 440
Kojima, T., 288
Konishi, T., 629
Kooy, H.J., 115
Korenev, Y.M., 396
Koski, K., 193
Kosynkin, V.D., 320
Kozanecki, A., 564
Koziarska, B., 559
Krupa, J.C., 1
Kulmala, A., 497
Kulmala, S., 279, 492, 497, 502
Kumar, V.V.R.K., 85
Kuo, S.C., 60
Kuprianova, G.N., 390
Kuzmina, N.P., 390, 393, 396
Kuznietz, M., 156

Laine, E., 279, 497
Lajunen, L.H.J., 312
Langouche, G., 185
Larese, C., 633
Latroche, M., 436
Lázár, G., 619, 623
Lázár, Jr., G., 619, 623
Leblanc, M., 198
Legendziewicz, J., 372
Lehtelä, P.-L., 316
Lemaitre-Blaise, M., 95, 198
Leppänen, M., 552
Leskelä, M., 544

Li, B., 120, 385
Liitti, P., 507
Lin, J., 103, 120, 124
Lin, J.-H., 539
Lindén, J., 586
Lippmaa, M., 586
Lis, S., 257, 515
Liu, G.K., 45
Lobo, R.P.S.M., 216
Loong, C.-K., 595
Lucas, J., 80

Machida, K., 363
Maestro, P., 520
Mahiou, R., 107
Makarova, I.P., 599
Malinovsky, Yu., 381
Mancini, D.C., 230
Marcos, M., 638
Mariotto, G., 152
Marques, M.P.M., 303
Marques, N., 331
Martinant, D., 107
Martinez, J.L., 203, 208, 216
Martinez-Rodriguez, L.P., 208
Martynenko, L.I., 390, 393, 396
Matos, J.R., 344
Matskevich, N., 604
Mattioli, T.A., 48
Mauger, A., 159, 461
Mazumdar, C., 571
Meijerink, A., 24
Melios, C.B., 267
Merah, S., 159, 185
Merbach, A.E., 246, 303
Mercier, N., 198
Merisalo, M., 599
Metz, A., 456
Meyer, G., 171
Mira, J., 225
Mironov, D., 129
Mitrofanova, N.D., 396
Miyake, C., 334
Moiseev, S.D., 320
Molina, M., 267
Mondry, A., 52, 367
Monemar, B., 564
Monge, M.A., 225
Moune, O.K., 35
Mukkala, V.-M., 507

Nabar, M.A., 377
Nagarajan, R., 571
Nakamura, T., 334
Nakayama, C., 288
Nassar, E.J., 63
Naumov, N., 604
Neck, V., 295
Nekvasil, V., 578
Nguyen, N., 291
Ni Dhubhghaill, O.M., 246
Niinistö, L., 544, 586
Nikitichev, A., 129
Nikolaenko, I.V., 474
Nipko, J., 595
Nishimura, Y., 271
Nitzsche, U., 469
Nonnato, A., 274
Nordgren, J., 230
Nowik, I., 166

O'Connor, R., 107
Odier, P., 216
Oláh, J., 619, 623
Olivier-Fourcade, J., 185
Oppeneer, P.M., 469
Osborn, R., 591

Padalia, B.D., 571
Palmetshofer, L., 555
Panak, P., 261
Parada, C., 237
Park, B., 124
Parker, T., 291
Paul-Boncour, V., 436
Pawlak, L., 181
Pedrini, C., 559
Pei, Z., 103
Peng, W.J., 99
Percheron-Guegan, A., 159, 185, 436
Pérez-Omil, J.A., 638
Peterson, J.R., 11
Petrilli, H.M., 465
Pham-Thi, M., 547
Pico, C., 212
Piguet, C., 324
Pintado, J.M., 633
Pinto, H., 156
Pires de Matos, A., 331
Pisarevsky, A.P., 396
Pitkänen, I., 316
Pokrzywnicki, S., 163
Porcher, P., 28, 95, 198
Potzel, W., 166
Powell, H., 303
Przewoznik, J., 436
Przybylinska, H., 555
Pubanz, D., 246, 303

Raerinne, P., 492
Rahiala, H., 193
Ramos, E.M., 212
Rasines, I., 225
Ravot, D., 159, 185, 461
Razumova, I., 129
Regev, D., 166
Reid, M.F., 20, 85, 115
Richardson, F.S., 115
Richardson Jr., J.W., 595
Richter, M., 469
Riegel, D., 456
Rivas, J., 225
Rizkalla, E., 312
Rojas, R.M., 400
Romero, J., 203
Ronda, C.R., 534
Rosa, I.L.V., 63
Roselli, C., 48
Ruíz Valero, C., 225
Runde, W., 295
Rykov, A.N., 396

Sáez-Puche, R., 147, 203, 208, 212, 216, 237
Salinas, A., 216
Samoilov, P., 604
Santos, V.D., 347
Savelyeva, M.V., 567
Schäfer, W., 440
Schmitt, D., 423
Schmitz, L.C., 347
Sechovský, V., 444
Serra, O.A., 63
Sherry, A.D., 303
Shi, W.-L., 626
Sibley, S.P., 291
Silber, H.B., 291
Silva, A.G., 354
Silva-Valenzuela, M.G., 331
Simas, A.M., 55
Simonov, V.I., 599
Siqueira, O.S., 267
Skanthakumar, S., 595
Soboleva, I.E., 390
Soderholm, L., 591, 595
Soininen, E., 552
Sokolnicki, J., 372
Sokolov, V.V., 567
Staninski, K., 486
Stankus, S.V., 220
Starynowicz, P., 52, 367, 406
Staub, U., 591
Steinbeck, L., 469
Stręk, W., 111
Stryła, Z., 515
Su, M., 124
Su, M.-Z., 539
Su, Q., 103, 120
Suchocki, A., 559
Suda, E., 629
Sun, J., 174
Suzuki, Y., 271
Świątek, K., 564

Taboada, S., 208, 216
Takalo, H., 492, 497, 507, 511
Takamatu, T., 271
Tanner, P.A., 20, 85, 99
Terreno, E., 274
Thompson, L.C., 60
Thuy, P.N., 52
Tietz, F., 152
Tkachuk, A., 129
Tong, J., 139
Törnqvist, R., 552
Trounov, V., 591
Troyanov, S.I., 396
Trushnikova, L.N., 567
Tu, Z.A., 390
Tyagel'sky, P.V., 220

Uemiya, S., 288
Uggeri, F., 274
Uhrlandt, S., 171
Urland, W., 152, 178

Vainiotalo, A., 316
Vavassori, P., 432
Vdovichev, V.S., 320
Veiga, M.L., 212
Vicentini, G., 350, 354, 357
Vidal, H., 638
Vigdorchik, A.G., 381
Vijayaraghavan, R., 571
Viljanen, J., 552

Wachter, P., 133
Wang, L., 174
Wang, S., 174
Wassdahl, N., 230
Wei, L., 363
Will, G., 440
Williams, A.F., 324
Wimmer, H., 261
Wysocki, H., 486

Xu, G., 234, 385
Xue, F., 103

Yan, C., 385
Yang, Y., 234
Yao, G., 124
Yoshimura, Y., 253
Yu, H.-M., 626

Zain, M., 344
Zaitzeva, I.G., 393
Zanghellini, E., 152
Zapparolli, G., 63
Zeng, H.-X., 626
Zhang, Y., 385
Zhao, W., 539
Zhao, X., 174
Zhou, J.Y., 99
Zinner, K., 344, 347
Zinner, L.B., 331, 344, 347
Zoan, T.A., 396
Zukerman-Schpector, J., 350, 354
Zych, E., 111

ELSEVIER

Journal of Alloys and Compounds 225 (1995) 645–656

Journal of ALLOYS AND COMPOUNDS

Subject Index of Volume 225

Absorption
emission spectra of U^{3+} in Cs_2NaYBr_6, 111
optical spectroscopy and structure of neodymium complexes with 2,6-pyridine-dicarboxylic acid in solution and single crystal at room and low temperatures, 367
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
A.c.-susceptibility
a.c. susceptibility studies of the UM_2Ge_2, TbM_2Ge_2, and HoM_2Ge_2 compounds (M = Co, Ni, Cu), 156
Actinides
optical excitations in lanthanide and actinide compounds, 1
two-electron crystal field analysis in U^{4+}-doped compounds, 35
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142
formation of Cm(III) chloride complexes in $CaCl_2$ solutions, 308
heavy fermion behaviour in lanthanide and actinide materials, 444
Actinium
cleaning rare earth elements from actinium, 320
Active carbon
selective catalysis by lanthanides dispersed on supports (silica, alumina and active carbon), 629
Additively coloured KCl
Tb(III) chelate chemiluminescence induced by the dissolution of additively coloured potassium chloride in aqueous solutions of peroxydisulphate ions, 492
Alkaline elements
the volatile rare earth element tetrakis-acetylacetonates, 393
Alumina
selective catalysis by lanthanides dispersed on supports (silica, alumina and active carbon), 629
Aluminium oxides
mechanism of electrogenerated luminescence of terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate at an oxide-covered aluminium electrode, 502
Aminopolycarboxylates
complexation kinetics of f-elements and polydentate ligands, 242
Aminopolyphosphonates
complexation kinetics of f-elements and polydentate ligands, 242
Amorphization
some recent advances in the study and characterization of f-element materials via optical spectroscopy, 11
Anaphyalaxis
protection against anaphylactic shock by gadolinium chloride-induced Kupffer cell blockade, 619
Angular overlap model
optical and magnetic investigations of Na^+/Pr^{3+}-β''-Al_2O_3, 152
Antiferromagnetic order
phase transitions and magnetic behaviour of $R_{1-x}Ca_{1+x}CrO_4$ oxides (R = Y or Sm) ($0 \leqslant x \leqslant 0.5$), 203
Antiferromagnetic ordering
characterization and magnetic properties of $R_{2-x}Ca_xBaNiO_5$ oxides (R = Y and Sm), 208
Antiferromagnetism
synthesis, polymorphism and magnetic properties of novel Tb_2BaMoO_5 (M = Co, or Ni) oxides, 147
Applications
industrial applications of rare earths: which way for the end of the century?, 520
Aqueous methanol
inner and outer sphere complexation between europium(III) and glycine in aqueous methanol, 291
Aqueous rare earth nitrate solution
coordination of NO_3^- ions to Sc^{3+} and lanthanoid ions in aqueous solution, 253
Aqueous solutions
mean molal activity coefficients of rare earth halides in aqueous solutions at 25.0 °C, 271
NMR conformational study of the lanthanide(III) complexes of DOTA in aqueous solution, 303
Aromatic ligands
a study of intramolecular energy transfer in Cm(III) complexes with aromatic ligands by time-resolved laser fluorescence spectroscopy, 261
Atomic-level reaction mechanisms
the evolution of a thin, amorphous neodymium hydroxide film to the C-type oxide—an HREM study, 139

Barium fluorohalides
X-ray storage phosphors, their properties and mechanism, 539
Benzylidenepyruvates
complexation of some trivalent lanthanides, scandium(III) and thorium(IV) by benzylidenepyruvates and cinnamylidenepyruvate in aqueous solution, 267

Calcium
the influence of mixed ligand complex formation on the separation of volatile neodymium and calcium dipivaloylmethanates by vacuum sublimation, 390
Calcium sulfide
rare-earth calcium sulfide phosphors for cathode-ray tube displays, 547
Calorimetry
complexation thermodynamics of lanthanoid(III) with ethylenediaminetetrapropionic acid (EDTP), 312
Canting of spins
phase transitions and magnetic behaviour of $R_{1-x}Ca_{1+x}CrO_4$ oxides (R = Y or Sm) ($0 \leqslant x \leqslant 0.5$), 203
Carbonate complexation
solid–liquid equilibria of neptunium(V) in carbonate solutions of different ionic strengths: II. Stability of the solid phases, 295

Elsevier Science S.A.

Carboxylate
synthesis, structure and properties of volatile lanthanide pivalates, 396
synthesis, thermogravimetry and X-ray analysis of uranyl benzoate and butyrate derivatives, 400
Catalysts
industrial applications of rare earths: which way for the end of the century?, 520
Ceramics
optical materials containing rare earth Ln_2S_3 sulfides, 567
Cerium
does Ce^{4+} play a role in the luminescence of $LaPO_4$:Ce?, 124
on the hybridization of Ce 4f states in CeF_3 and CeO_2: a near-threshold excitation X-ray fluorescence study, 230
Charge transfer
optical excitations in lanthanide and actinide compounds, 1
Chelates
luminescence study of europium(III) complexes with several dicarboxylic acids in aqueous solution, 257
NMR conformational study of the lanthanide(III) complexes of DOTA in aqueous solution, 303
synthesis and luminescence properties of some Eu(III) and Tb(III) chelate labels having 2,2′:6′,2″-terpyridine as an energy absorbing part, 507
the influence of substituents on the luminescence properties of the Eu(III) and Tb(III) chelates of 4-(phenylethynyl)pyridine derivatives, 511
Chelating agents
separation of rare earth metals using a supported liquid membrane with DTPA, 288
Chemiluminescence
chemiluminescent characteristics of some plasma components in the presence of Eu(III) ions, 486
Tb(III) chelate chemiluminescence induced by the dissolution of additively coloured potassium chloride in aqueous solutions of peroxydisulphate ions, 492
terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate enhanced lyoluminescence of X-ray irradiated sodium chloride, 497
Chirality effect
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
Chloride complexation
formation of Cm(III) chloride complexes in $CaCl_2$ solutions, 308
Cinnamylidenepyruvate
complexation of some trivalent lanthanides, scandium(III) and thorium(IV) by benzylidenepyruvates and cinnamylidenepyruvate in aqueous solution, 267
Cobalt borates
crystal structure and magnetic properties of $CoR(BO_2)_5$ (R = Y, Gd) and $NiR(BO_2)_5$ (R = Nd, Gd), 225
Coherent sintering
sintering in colloidal particles of rare earth hydroxycarbonate and its decomposition products, 190
Colloidal particles
sintering in colloidal particles of rare earth hydroxycarbonate and its decomposition products, 190
Complexation
thermal behaviour and characterization of sodium 7-(hydroxyimino)-8-oxo-quinoline-5-sulphonate and its bis-complex with dioxouranium(VI), 316
Complexes
complexes between lanthanide picrates and *N*,*N*-dimethylacetamide (DMA). Synthesis, characterization and structure of the samarium compound, 350
Complex stability constants
chemiluminescent characteristics of some plasma components in the presence of Eu(III) ions, 486
Computer modelling
some regularities in the thermochemistry of alloying of rare earths with late 3d-transition metals, 474
Concentration enhancement
vibronic rare earth spectroscopy: results and pitfalls, 24
Condensation
the discovery of excitonium, 133
Conduction band edge
mechanism of electrogenerated luminescence of terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate at an oxide-covered aluminium electrode, 502
Contrast agents
high-resolution NMR and relaxometric studies of Ln(III) complexes of relevance to MRI, 274
Cooperative interaction
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
Coordination number nine
sparkle model for the quantum chemical AM1 calculation of europium complexes of coordination number nine, 55
Coordination structure
coordination structure of lanthanide(III)$(NO_3)_3$–diamide complexes, 334
Copper
ferromagnetic rare earth–copper heteronuclear complexes $R_2Cu_3(HBen)_3 \cdot 6H_2O \cdot 4DMF$, 234
Correlation
direct calculation of lanthanide optical transition intensities Nd^{3+}:YAG, 115
Correlation crystal field
two-electron crystal field analysis in U^{4+}-doped compounds, 35
Corrosion
lanthanide salts as alternative corrosion inhibitors, 638
Cross-relaxation
luminescence and dynamics in Tm^{3+}:$NaYF_4$, 107
Crystal field effect
crystal field phenomena in rare earth cuprates, 578
Crystal fields
simultaneous simulation of optical and magnetic properties of neodymium compounds, 28
study of the crystal field effect in REOF:Eu^{3+} (RE = La, Gd and Y) using optical spectroscopy and X-ray powder diffraction, 89
crystal-field effect in $CsCdBr_3$:Pr, 95
crystal field effects and magnetic properties of Dy_2Te_3, 163
magnetic and structural characterization of $TlLnSe_2$ compounds (Ln = Nd to Yb), 181
structure and optical properties of $KGd(CO_3)F_2$:Eu, 198
structural characterization and magnetic susceptibility of Ba_2RIrI_6 distorted perovskites (R = rare earth), 212
intermultiplet transitions in optically opaque $EuBa_2Cu_3O_7$: an inelastic neutron scattering study, 591
Crystal-field theory
on the spatial origin of crystal electric fields in $SmCo_5$, 469
Crystal growth
optical materials containing rare earth Ln_2S_3 sulfides, 567
Crystallization
crystallization and thermal properties of rare earth gallium garnets, 220
Crystal structures
nitride chlorides of the early lanthanides: $[M_2N]Cl_3$(M = La–Nd), 171
crystal structure and magnetic properties of $CoR(BO_2)_5$ (R = Y, Gd) and $NiR(BO_2)_5$ (R = Nd, Gd), 225

synthesis and characterization of a tetramethylurea adduct of a biscyclopentadienyl ytterbium(II) complex: X-ray crystal structure of $YbCp_2 \cdot 2TMU$, 331
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338
crystal-chemical investigations of nitrato complexes of the lanthanoids with alkali cations, 381
crystal structure of triaqua(oxydiacetato-O,O′,O″)europium(II) hydrate, 406
$Cs_2AgEuCl_6$
emission spectrum of $Cs_2AgEuCl_6$, 60
C-type neodymium sesquioxide
the evolution of a thin, amorphous neodymium hydroxide film to the C-type oxide—an HREM study, 139
Cuprates
effect of the rare earth substitution on the optical phonons of $LaRBaCuO_5$ (R = Nd and Eu) oxides, 216
crystal field phenomena in rare earth cuprates, 578
Curium
a study of intramolecular energy transfer in Cm(III) complexes with aromatic ligands by time-resolved laser fluorescence spectroscopy, 261
formation of Cm(III) chloride complexes in $CaCl_2$ solutions, 308
Cycle
the global rare-earth cycle, 609
Cyclopentadienyl
synthesis and characterization of a tetramethylurea adduct of a biscyclopentadienyl ytterbium(II) complex: X-ray crystal structure of $YbCp_2 \cdot 2TMU$, 331

Decay
optical properties of CaS:Tb grown by atomic layer epitaxy, 544
Density
crystallization and thermal properties of rare earth gallium garnets, 220
Density-functional calculations
on the spatial origin of crystal electric fields in $SmCo_5$, 469
Diamide
coordination structure of lanthanide(III)$(NO_3)_3$–diamide complexes, 334
Dicarboxylate complexes
luminescence study of europium(III) complexes with several dicarboxylic acids in aqueous solution, 257
Dimethylacetamide
complexes between lanthanide picrates and *N,N*-dimethylacetamide (DMA). Synthesis, characterization and structure of the samarium compound, 350
Dissociative mechanisms
complexation kinetics of f-elements and polydentate ligands, 242
DNA
nucleic acid labelling employing lanthanide chelates, 489
Double nitrates
energy and intensity fitting of $Pr_2Mg_3(NO_3)_{12} \cdot 24H_2O$, 66
Dysprosium
luminescence of Dy^{3+} enhanced by sensitization, 103
a study on the luminescence properties of Eu^{3+} and Dy^{3+} in $M_2RE_8(SiO_4)_6O_2$ (M = Mg, Ca; RE = Y, Gd, La), 120
Dysprosium sesquitelluride
crystal field effects and magnetic properties of Dy_2Te_3, 163

Effective magnetic moments
a.c. susceptibility studies of the UM_2Ge_2, TbM_2Ge_2, and HoM_2Ge_2 compounds (M = Co, Ni, Cu), 156
EGTA
high-resolution NMR and relaxometric studies of Ln(III) complexes of relevance to MRI, 274
Electrogenerated luminescence
mechanism of electrogenerated luminescence of terbium(III)-{2,6-bis[*N,N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate at an oxide-covered aluminium electrode, 502
Electron-beam-induced sintering
sintering in colloidal particles of rare earth hydroxycarbonate and its decomposition products, 190
Electron density
electron density distribution in $Nd_{2-x}Ce_xCuO_{4-\delta}$, 599
Electronic nature
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142
Electronic properties
heavy fermion behaviour in lanthanide and actinide materials, 444
Electronic spectra
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338
Electronic structure
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142
effects of Ce vs. Lu substitution on the electronic structure of rare earth–transition metal compounds, 432
theoretical investigation of substitutional Fe impurities in Gd, 465
Electron transfer quenching
luminescent materials: is there still news?, 529
Elpasolite
energy transfer between lanthanide ions in elpasolite lattices, 20
Elpasolite lattices
comparative energy level parametrizations for lanthanide ions in octahedral symmetry environments, 85
Emission
emission spectrum of $Cs_2AgEuCl_6$, 60
Emission intensity
luminescence study of complexation of Eu(III) and Tb(III) with *N*-methyliminodiacetic acid, 515
Emission spectra
emission spectra of U^{3+} in Cs_2NaYBr_6, 111
Endotoxin
effect of Kupffer cell phagocytosis blockade induced by gadolinium chloride and carrageenan on endotoxin sensitivity, tissue localization of endotoxin and TNF production, 623
Energy levels
comparative energy level parametrizations for lanthanide ions in octahedral symmetry environments, 85
crystal-field effect in $CsCdBr_3$:Pr, 95
Energy migration
energy transfer in GGG:Yb^{3+},Ho^{3+} crystals, 559
Energy transfers
energy transfer between lanthanide ions in elpasolite lattices, 20
photophysical properties of Ce^{3+}:Tb^{3+} supported on silicas and zeolites, 63
a study of intramolecular energy transfer in Cm(III) complexes with aromatic ligands by time-resolved laser fluorescence spectroscopy, 261
self-assembly of helical supramolecular lanthanide complexes, 324
energy transfer in GGG:Yb^{3+},Ho^{3+} crystals, 559

Enthalpies of mixing
some regularities in the thermochemistry of alloying of rare earths with late 3d-transition metals, 474
Enthalpy of formation
size effect in rare earth stabilization of $Bi_2BaLnCuO_{6+\delta}$ family, 604
Environment
the global rare-earth cycle, 609
Erbium implantation
the role of oxygen in optical activation of Er implanted in Si, 555
Eu^{3+}
intensity parametrisation of $LiYF_4$:Eu, 71
Eu(III) ions
chemiluminescent characteristics of some plasma components in the presence of Eu(III) ions, 486
Europium
study of the crystal field effect in REOF:Eu^{3+} (RE = La, Gd and Y) using optical spectroscopy and X-ray powder diffraction, 89
a study on the luminescence properties of Eu^{3+} and Dy^{3+} in $M_2RE_8(SiO_4)_6O_2$ (M = Mg, Ca; RE = Y, Gd, La), 120
structure and optical properties of $KGd(CO_3)F_2$:Eu, 198
luminescence study of europium(III) complexes with several dicarboxylic acids in aqueous solution, 257
inner and outer sphere complexation between europium(III) and glycine in aqueous methanol, 291
studies of neodymium, europium and terbium picrate complexes with benzyl-*t*-butyl sulphoxide, 344
emission spectra of europium(III) complexes with 4-methylmorpholine-*N*-oxide, 347
hexamethylphosphoramide complexes of neodymium and europium picrates, 354
crystal structure of triaqua(oxydiacetato-O,O′,O″)europium(II) hydrate, 406
nucleic acid labelling employing lanthanide chelates, 489
synthesis and luminescence properties of some Eu(III) and Tb(III) chelate labels having 2,2′:6′,2″-terpyridine as an energy absorbing part, 507
the influence of substituents on the luminescence properties of the Eu(III) and Tb(III) chelates of 4-(phenylethynyl)-pyridine derivatives, 511
Europium(III)
emission spectrum of $Cs_2AgEuCl_6$, 60
Europium ion
picosecond Raman and emission spectroscopy of lanthanide compounds, 99
EXAFS
structural study of YMn_2 hydrides, 436
Exchange interactions
crystal field effects and magnetic properties of Dy_2Te_3, 163
Exciton binding
rare earth ionization, carrier trapping and exciton binding, 41
Excitonium
the discovery of excitonium, 133
Extraction
cleaning rare earth elements from actinium, 320

fd transitions
optical excitations in lanthanide and actinide compounds, 1
Feed additive
influence of rare earth–vitamin C compound on the growth of livestock and poultry, 626
f-Elements
protection against anaphylactic shock by gadolinium chloride-induced Kupffer cell blockade, 619
Ferrimagnetism
magnetic susceptibility of Sm_2In: theory and experiment, 461
Ferromagnetism
ferromagnetic rare earth–copper heteronuclear complexes $R_2Cu_3(HBen)_3 \cdot 6H_2O \cdot 4DMF$, 234
Fluorescence
stability, structure and fluorescence spectra of high-pressure-treated Eu^{2+} iodides, 174
Fluorescence rejection
picosecond Raman and emission spectroscopy of lanthanide compounds, 99
Fluorescence spectroscopy
a study of intramolecular energy transfer in Cm(III) complexes with aromatic ligands by time-resolved laser fluorescence spectroscopy, 261
formation of Cm(III) chloride complexes in $CaCl_2$ solutions, 308
Fluoride
luminescence and dynamics in Tm^{3+}:$NaYF_4$, 107
Fluorocarbonate
structure and optical properties of $KGd(CO_3)F_2$:Eu, 198
Fluoroimmunoassay
luminescent lanthanide chelates—a way to more sensitive diagnostic methods, 480
Fluorozirconate glass
magnetic circular dichroism and optical absorption spectra of holmium-doped fluorozirconate (ZBLAN) glass: a prospective study, 80

Gadolinium
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
Gadolinium chloride
protection against anaphylactic shock by gadolinium chloride-induced Kupffer cell blockade, 619
Gadolinium gallium garnet crystals
energy transfer in GGG:Yb^{3+},Ho^{3+} crystals, 559
Gamma method
crystallization and thermal properties of rare earth gallium garnets, 220
Garnet
crystallization and thermal properties of rare earth gallium garnets, 220
Glass waveguides
laser spectroscopy of rare earth-doped glass waveguides, 15
Global
the global rare-earth cycle, 609
Glycine
inner and outer sphere complexation between europium(III) and glycine in aqueous methanol, 291
g-values
simultaneous simulation of optical and magnetic properties of neodymium compounds, 28

Hard magnetic materials
on the spatial origin of crystal electric fields in $SmCo_5$, 469
Heteronuclear complex
ferromagnetic rare earth–copper heteronuclear complexes $R_2Cu_3(HBen)_3 \cdot 6H_2O \cdot 4DMF$, 234
Hexafluorophosphate
emission spectra of europium(III) complexes with 4-methylmorpholine-*N*-oxide, 347

Hexamethylphosphoramide
hexamethylphosphoramide complexes of neodymium and europium picrates, 354
High T_c superconductors
intermultiplet transitions in optically opaque $EuBa_2Cu_3O_7$: an inelastic neutron scattering study, 591
High temperature superconductors
electron density distribution in $Nd_{2-x}Ce_xCuO_{4-\delta}$, 599
Holmium
magnetic circular dichroism and optical absorption spectra of holmium-doped fluorozirconate (ZBLAN) glass: a prospective study, 80
Holmium compounds
a.c. susceptibility studies of the UM_2Ge_2, TbM_2Ge_2, and HoM_2Ge_2 compounds (M = Co, Ni, Cu), 156
HREM
sintering in colloidal particles of rare earth hydroxycarbonate and its decomposition products, 190
Hybridization
on the hybridization of Ce 4f states in CeF_3 and CeO_2: a near-threshold excitation X-ray fluorescence study, 230
Hydrated electrons
X-ray irradiation-induced optical luminescence of terbium(III) chelates in aqueous solutions, 279
Tb(III) chelate chemiluminescence induced by the dissolution of additively coloured potassium chloride in aqueous solutions of peroxydisulphate ions, 492
Hydration
luminescence study of europium(III) complexes with several dicarboxylic acids in aqueous solution, 257
Hydration number
luminescence study on determination of the hydration number of Sm(III) and Dy(III), 284
luminescence study of complexation of Eu(III) and Tb(III) with *N*-methyliminodiacetic acid, 515
Hydrides
structural study of YMn_2 hydrides, 436
Hydrogen chemisorption
the terbium oxide as support of highly dispersed metals. Study of the Rh/TbO_x catalytic system, 633
Hydroxyl radical
X-ray irradiation-induced optical luminescence of terbium(III) chelates in aqueous solutions, 279
Hyperfine fields
theoretical investigation of substitutional Fe impurities in Gd, 465
Icosahedral symmetry
energy and intensity fitting of $Pr_2Mg_3(NO_3)_{12}.24H_2O$, 66
Impurities
theoretical investigation of substitutional Fe impurities in Gd, 465
Incommensurate configuration
neutron diffraction on YFe_3Al_7 as reference of the f-magnetism of isostructural rare earth–iron–aluminium compounds, 440
Inelastic neutron scattering
intermultiplet transitions in optically opaque $EuBa_2Cu_3O_7$: an inelastic neutron scattering study, 591
Infrared
spectral-luminescent properties of Tm:YLF crystal, 129
coordination structure of lanthanide(III)$(NO_3)_3$–diamide complexes, 334
Infrared spectra
emission spectra of U^{3+} in Cs_2NaYBr_6, 111
scandium picrate complex with *trans*-1,4-dithiane-1,4-dioxide, 357
studies on saccharinates I. Synthesis and some properties of rare earth saccharinate hydrates, 377
synthesis and structure of tributylammonium hexanitrate lanthanum, 385
Inhibitors
lanthanide salts as alternative corrosion inhibitors, 638
Intensity
energy and intensity fitting of $Pr_2Mg_3(NO_3)_{12}.24H_2O$, 66
Intensity analysis
optical spectroscopy and structure of neodymium complexes with 2,6-pyridine-dicarboxylic acid in solution and single crystal at room and low temperatures, 367
Intensity parameters
intensity parametrisation of $LiYF_4$:Eu, 71
Intermetallic compounds
structural study of YMn_2 hydrides, 436
Ionic strength
solid–liquid equilibria of neptunium(V) in carbonate solutions of different ionic strengths: II. Stability of the solid phases, 295
Ionization
rare earth ionization, carrier trapping and exciton binding, 41
IR absorption
X-ray powder diffraction and vibrational study of the solid solutions in $(La_{1-x}RE_x)OCl$ (RE = Gd and Y), 193
Iridium oxides
structural characterization and magnetic susceptibility of Ba_2RIrI_6 distorted perovskites (R = rare earth), 212
Iron clusters
neutron diffraction on YFe_3Al_7 as reference of the f-magnetism of isostructural rare earth–iron–aluminium compounds, 440
Iron impurities
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
IR spectra
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338

Kinetic behaviour
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246
Kinetics
complexation kinetics of f-elements and polydentate ligands, 242
Kupffer cell
protection against anaphylactic shock by gadolinium chloride-induced Kupffer cell blockade, 619
effect of Kupffer cell phagocytosis blockade induced by gadolinium chloride and carrageenan on endotoxin sensitivity, tissue localization of endotoxin and TNF production, 623
Kupffer cell blockade
protection against anaphylactic shock by gadolinium chloride-induced Kupffer cell blockade, 619

Labellings
luminescent lanthanide chelates—a way to more sensitive diagnostic methods, 480
nucleic acid labelling employing lanthanide chelates, 489
Lamp phosphors
luminescent materials: is there still news?, 529
Lanthanide
energy transfer between lanthanide ions in elpasolite lattices, 20
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48

high-resolution NMR and relaxometric studies of Ln(III) complexes of relevance to MRI, 274
Lanthanide complexes
sparkle model for the quantum chemical AM1 calculation of europium complexes of coordination number nine, 55
coordination structure of lanthanide(III)$(NO_3)_3$–diamide complexes, 334
Lanthanide(III)
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246
Lanthanides
optical excitations in lanthanide and actinide compounds, 1
the role of molecular dynamics in the f–f transition intensities in lanthanide compounds, 52
new ternary selenides of lanthanides prepared by reduction of the sesquiselenides, 178
complexation kinetics of f-elements and polydentate ligands, 242
self-assembly of helical supramolecular lanthanide complexes, 324
complexes between lanthanide picrates and *N,N*-dimethylacetamide (DMA). Synthesis, characterization and structure of the samarium compound, 350
synthesis, structure and properties of volatile lanthanide pivalates, 396
crystal structure of triaqua(oxydiacetato-O,O′,O″)europium(II) hydrate, 406
the thermodynamic properties of rare earth metallic systems, 409
heavy fermion behaviour in lanthanide and actinide materials, 444
luminescent lanthanide chelates—a way to more sensitive diagnostic methods, 480
nucleic acid labelling employing lanthanide chelates, 489
the global rare-earth cycle, 609
selective catalysis by lanthanides dispersed on supports (silica, alumina and active carbon), 629
lanthanide salts as alternative corrosion inhibitors, 638
Lanthanoid(III) EDTP complexes
complexation thermodynamics of lanthanoid(III) with ethylenediaminetetrapropionic acid (EDTP), 312
Lanthanum
does Ce^{4+} play a role in the luminescence of $LaPO_4$:Ce?, 124
cleaning rare earth elements from actinium, 320
synthesis and structure of tributylammonium hexanitrate lanthanum, 385
Laser-induced fluorescence
picosecond Raman and emission spectroscopy of lanthanide compounds, 99
Laser spectroscopy
laser spectroscopy of rare earth-doped glass waveguides, 15
Lattice deformation
magnetic and structural characterization of $TlLnSe_2$ compounds (Ln = Nd to Yb), 181
Lattice location
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
Lattice parameters
anomalous temperature dependence of the lattice parameters in $HoPO_4$ and $HoVO_4$: rare earth quadrupolar effects, 595
Layered cuprates
size effect in rare earth stabilization of $Bi_2BaLnCuO_{6+\delta}$ family, 604
Ligand-field calculations
optical and magnetic investigations of Na^+/Pr^{3+}-β''-Al_2O_3, 152
Lithium
does Ce^{4+} play a role in the luminescence of $LaPO_4$:Ce?, 124
$LiYF_4$
intensity parametrisation of $LiYF_4$:Eu, 71
Luminescence
emission spectrum of $Cs_2AgEuCl_6$, 60
study of the crystal field effect in REOF:Eu^{3+} (RE = La, Gd and Y) using optical spectroscopy and X-ray powder diffraction, 89
luminescence of Dy^{3+} enhanced by sensitization, 103
luminescence and dynamics in Tm^{3+}:$NaYF_4$, 107
a study on the luminescence properties of Eu^{3+} and Dy^{3+} in $M_2RE_8(SiO_4)_6O_2$ (M = Mg, Ca; RE = Y, Gd, La), 120
does Ce^{4+} play a role in the luminescence of $LaPO_4$:Ce?, 124
spectral-luminescent properties of Tm:YLF crystal, 129
structure and optical properties of $KGd(CO_3)F_2$:Eu, 198
luminescence study of europium(III) complexes with several dicarboxylic acids in aqueous solution, 257
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
luminescent lanthanide chelates—a way to more sensitive diagnostic methods, 480
chemiluminescent characteristics of some plasma components in the presence of Eu(III) ions, 486
synthesis and luminescence properties of some Eu(III) and Tb(III) chelate labels having 2,2′:6′,2″-terpyridine as an energy absorbing part, 507
the influence of substituents on the luminescence properties of the Eu(III) and Tb(III) chelates of 4-(phenylethynyl)-pyridine derivatives, 511
phosphors for lamps and displays: an applicational view, 534
rare-earth calcium sulfide phosphors for cathode-ray tube displays, 547
Luminescence lifetime
luminescence study on determination of the hydration number of Sm(III) and Dy(III), 284
Luminescent materials
luminescent materials: is there still news?, 529
Lyoluminescence
Tb(III) chelate chemiluminescence induced by the dissolution of additively coloured potassium chloride in aqueous solutions of peroxydisulphate ions, 492
terbium(III)-{2,6-bis[*N,N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate enhanced lyoluminescence of X-ray irradiated sodium chloride, 497

Magnetic circular dichroism
magnetic circular dichroism and optical absorption spectra of holmium-doped fluorozirconate (ZBLAN) glass: a prospective study, 80
Magnetic phase diagrams
metamagnetism and complex magnetic phase diagrams of rare earth intermetallics, 423
Magnetic properties
optical and magnetic investigations of Na^+/Pr^{3+}-β''-Al_2O_3, 152
comparative study of the magnetic properties of the Yb(Gd)Te, La(Gd)Te and (La,Y)(Gd)Te solid solutions, 159
crystal field effects and magnetic properties of Dy_2Te_3, 163
synthesis, thermal decomposition, magnetic properties and vibrational study of the series Ln(OH)CrO_4 (Ln = Y,DY–Lu), 237
Magnetic resonance imaging
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246
Magnetic susceptibility
spectroscopic and magnetic properties of Nd^{3+} in $LiYF_4$, 75

structural characterization and magnetic susceptibility of Ba_2RIrI_6 distorted perovskites (R = rare earth), 212
crystal structure and magnetic properties of $CoR(BO_2)_5$ (R = Y, Gd) and $NiR(BO_2)_5$ (R = Nd, Gd), 225
magnetic susceptibility of Sm_2In: theory and experiment, 461

Magnetism
the discovery of excitonium, 133
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
theoretical investigation of substitutional Fe impurities in Gd, 465
superconductivity and magnetism in quaternary F (F = Y or f elements) transition metal borocarbides and magnetic properties of RNi_4B (R = Y or rare earth), 571

Magnetization
Mössbauer effect and magnetization studies of mixed valence solid solution $NpOH \cdot NpH_{2-x}$, 166

MCD
intensity parametrisation of $LiYF_4$:Eu, 71
magnetic circular dichroism and optical absorption spectra of holmium-doped fluorozirconate (ZBLAN) glass: a prospective study, 80

Mean molal activity coefficients
mean molal activity coefficients of rare earth halides in aqueous solutions at 25.0 °C, 271

Mechanism
X-ray storage phosphors, their properties and mechanism, 539

Melt
crystallization and thermal properties of rare earth gallium garnets, 220

Metal acetate
sol–gel synthesis and characterization of superconducting $(Y_{1-x}Eu_x)Ba_2(Cu_{1-y}{}^{57}Fe_y)_4O_8$ samples, 586

Metal ion complexes
complexation of some trivalent lanthanides, scandium(III) and thorium(IV) by benzylidenepyruvates and cinnamylidenepyruvate in aqueous solution, 267

Metalloporphyrins
the preparation and characterization of monomeric lanthanide tetraphenylporphyrin crystals, [Ln(tpp)acac·3TCB·8H_2O] (Ln = Gd, Sm), 363

Metalloproteins
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48

Metamagnetism
phase transitions and magnetic behaviour of $R_{1-x}Ca_{1+x}CrO_4$ oxides (R = Y or Sm) ($0 \leqslant x \leqslant 0.5$), 203
metamagnetism and complex magnetic phase diagrams of rare earth intermetallics, 423

Mixed ligand complex
the influence of mixed ligand complex formation on the separation of volatile neodymium and calcium dipivaloylmethanates by vacuum sublimation, 390

Mixed valence compounds
characterization and magnetic properties of $R_{2-x}Ca_xBaNiO_5$ oxides (R = Y and Sm), 208

Mixed valences
Mössbauer effect and magnetization studies of mixed valence solid solution $NpOH \cdot NpH_{2-x}$, 166

Molecular dynamics
the role of molecular dynamics in the f–f transition intensities in lanthanide compounds, 52

Monomeric lanthanide tetraphenylporphyrin crystals
the preparation and characterization of monomeric lanthanide tetraphenylporphyrin crystals, [Ln(tpp)acac·3TCB·8H_2O] (Ln = Gd, Sm), 363

Monotellurides
comparative study of the magnetic properties of the Yb(Gd)Te, La(Gd)Te and (La,Y)(Gd)Te solid solutions, 159

Monoxides
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142

Mössbauer effect
Mössbauer effect and magnetization studies of mixed valence solid solution $NpOH \cdot NpH_{2-x}$, 166

Mössbauer spectroscopy
^{125}Te Mössbauer spectroscopy study of some rare-earth monotelluride based solid solutions, 185

Multicolour flat panel displays
multicolour thin film electroluminescent displays: a new application of rare earth metals, 552

Near-infrared fluorescence
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48

Neodymium
simultaneous simulation of optical and magnetic properties of neodymium compounds, 28
studies of neodymium, europium and terbium picrate complexes with benzyl-*t*-butyl sulphoxide, 344
hexamethylphosphoramide complexes of neodymium and europium picrates, 354
the influence of mixed ligand complex formation on the separation of volatile neodymium and calcium dipivaloylmethanates by vacuum sublimation, 390

Neodymium(III) complexes
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338

Nepheloauxetic effect
optical spectroscopy and structure of neodymium complexes with 2,6-pyridine-dicarboxylic acid in solution and single crystal at room and low temperatures, 367

Neutron diffraction
neutron diffraction on YFe_5Al_7 as reference of the f-magnetism of isostructural rare earth–iron–aluminium compounds, 440

New ternary selenides
new ternary selenides of lanthanides prepared by reduction of the sesquiselenides, 178

Nickel borates
crystal structure and magnetic properties of $CoR(BO_2)_5$ (R = Y, Gd) and $NiR(BO_2)_5$ (R = Nd, Gd), 225

Nitrates
crystal-chemical investigations of nitrato complexes of the lanthanoids with alkali cations, 381

Nitrato-complex
coordination of NO_3^- ions to Sc^{3+} and lanthanoid ions in aqueous solution, 253

Nitrato-lanthanoid complex
coordination of NO_3^- ions to Sc^{3+} and lanthanoid ions in aqueous solution, 253

Nitride chlorides
nitride chlorides of the early lanthanides: $[M_2N]Cl_3$(M = La–Nd), 171

Nuclear magnetic resonance
high-resolution NMR and relaxometric studies of Ln(III) complexes of relevance to MRI, 274
NMR conformational study of the lanthanide(III) complexes of DOTA in aqueous solution, 303

coordination structure of lanthanide(III)$(NO_3)_3$–diamide complexes, 334
Nuclear magnetic resonance studies
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246
Nuclear quadrupole moment
optically-detected nuclear quadrupole resonance of Eu^{3+} in LaF_3, 45

Oligonucleotides
nucleic acid labelling employing lanthanide chelates, 489
Optical absorption
intensity parametrisation of $LiYF_4$:Eu, 71
spectroscopic and magnetic properties of Nd^{3+} in $LiYF_4$, 75
Optical activation
the role of oxygen in optical activation of Er implanted in Si, 555
Optical phonons
effect of the rare earth substitution on the optical phonons of $LaRBaCuO_5$ (R = Nd and Eu) oxides, 216
Optical properties
optical and magnetic investigations of Na^+/Pr^{3+}-β''-Al_2O_3, 152
optical properties of CaS:Tb grown by atomic layer epitaxy, 544
Optical-r.f. double resonance
optically-detected nuclear quadrupole resonance of Eu^{3+} in LaF_3, 45
Optical spectroscopy
optical excitations in lanthanide and actinide compounds, 1
Orbital energy crossover
some recent advances in the study and characterization of f-element materials via optical spectroscopy, 11
Orthorhombic perovskites
structural characterization and magnetic susceptibility of Ba_2RIrI_6 distorted perovskites (R = rare earth), 212
Oxides
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142

Paramagnetic susceptibility
simultaneous simulation of optical and magnetic properties of neodymium compounds, 28
Perchlorate
emission spectra of europium(III) complexes with 4-methylmorpholine-*N*-oxide, 347
Phagocytosis blockade
effect of Kupffer cell phagocytosis blockade induced by gadolinium chloride and carrageenan on endotoxin sensitivity, tissue localization of endotoxin and TNF production, 623
Phase relationships
some recent advances in the study and characterization of f-element materials via optical spectroscopy, 11
Phase transitions
synthesis, polymorphism and magnetic properties of novel Tb_2BaMoO_5 (M = Co, or Ni) oxides, 147
phase transitions and magnetic behaviour of $R_{1-x}Ca_{1+x}CrO_4$ oxides (R = Y or Sm) ($0 \leqslant x \leqslant 0.5$), 203
Phosphors
industrial applications of rare earths: which way for the end of the century?, 520
rare-earth calcium sulfide phosphors for cathode-ray tube displays, 547
Photoelectron spectra
effects of Ce vs. Lu substitution on the electronic structure of rare earth–transition metal compounds, 432
Photoemissions
effects of Ce vs. Lu substitution on the electronic structure of rare earth–transition metal compounds, 432
Photoluminescence
the role of oxygen in optical activation of Er implanted in Si, 555
Photoluminescence emission
excitation and recombination processes of Yb in InP and InAsP, 564
Photostimulated luminescence
X-ray storage phosphors, their properties and mechanism, 539
Picoseconds
picosecond Raman and emission spectroscopy of lanthanide compounds, 99
Picrates
complexes between lanthanide picrates and *N*,*N*-dimethylacetamide (DMA). Synthesis, characterization and structure of the samarium compound, 350
hexamethylphosphoramide complexes of neodymium and europium picrates, 354
Pigments
industrial applications of rare earths: which way for the end of the century?, 520
Polarized absorption
energy and intensity fitting of $Pr_2Mg_3(NO_3)_{12}.24H_2O$, 66
Polyaminocarboxylates
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246
Polyaminopolycarboxylate complexes
luminescence study on determination of the hydration number of Sm(III) and Dy(III), 284
Polymorphism
synthesis, polymorphism and magnetic properties of novel Tb_2BaMoO_5 (M = Co, or Ni) oxides, 147
Potentiometry
complexation thermodynamics of lanthanoid(III) with ethylenediaminetetrapropionic acid (EDTP), 312
Praseodymium
crystal-field effect in $CsCdBr_3$:Pr, 95
Precursors
synthesis, thermogravimetry and X-ray analysis of uranyl benzoate and butyrate derivatives, 400
Preparation
the terbium oxide as support of highly dispersed metals. Study of the Rh/TbO_x catalytic system, 633
Pyrolysis-MS
thermal behaviour and characterization of sodium 7-(hydroxyimino)-8-oxo-quinoline-5-sulphonate and its bis-complex with dioxouranium(VI), 316

Quantum chemical
sparkle model for the quantum chemical AM1 calculation of europium complexes of coordination number nine, 55
Quantum cutter
phosphors for lamps and displays: an applicational view, 534

Radioluminescence
X-ray irradiation-induced optical luminescence of terbium(III) chelates in aqueous solutions, 279
Raman scattering
X-ray powder diffraction and vibrational study of the solid solutions in $(La_{1-x}RE_x)OCl$ (RE = Gd and Y), 193
Raman spectra
picosecond Raman and emission spectroscopy of lanthanide compounds, 99
coordination of NO_3^- ions to Sc^{3+} and lanthanoid ions in aqueous solution, 253

synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338
Raman spectroscopy
emission spectra of U^{3+} in Cs_2NaYBr_6, 111
Rare-earth borates
crystal structure and magnetic properties of $CoR(BO_2)_5$ (R = Y, Gd) and $NiR(BO_2)_5$ (R = Nd, Gd), 225
Rare-earth complexes
crystal-chemical investigations of nitrato complexes of the lanthanoids with alkali cations, 381
Rare-earth compounds
phosphors for lamps and displays: an applicational view, 534
Rare earth doped phosphors
X-ray storage phosphors, their properties and mechanism, 539
Rare-earth elements
studies on saccharinates I. Synthesis and some properties of rare earth saccharinate hydrates, 377
the volatile rare earth element tetrakis-acetylacetonates, 393
Rare earth excitation
excitation and recombination processes of Yb in InP and InAsP, 564
Rare earth halides
mean molal activity coefficients of rare earth halides in aqueous solutions at 25.0 °C, 271
Rare earth hydroxide decomposition
the evolution of a thin, amorphous neodymium hydroxide film to the C-type oxide—an HREM study, 139
Rare earth intermetallics
metamagnetism and complex magnetic phase diagrams of rare earth intermetallics, 423
Rare earth ions
vibronic rare earth spectroscopy: results and pitfalls, 24
rare earth ionization, carrier trapping and exciton binding, 41
Rare earth metals
^{125}Te Mössbauer spectroscopy study of some rare-earth monotelluride based solid solutions, 185
Rare earth oxychlorides
X-ray powder diffraction and vibrational study of the solid solutions in $(La_{1-x}RE_x)OCl$ (RE = Gd and Y), 193
Rare earth oxyfluorides
study of the crystal field effect in $REOF:Eu^{3+}$ (RE = La, Gd and Y) using optical spectroscopy and X-ray powder diffraction, 89
Rare earth phosphors
multicolour thin film electroluminescent displays: a new application of rare earth metals, 552
Rare-earth quadrupolar effects
anomalous temperature dependence of the lattice parameters in $HoPO_4$ and $HoVO_4$: rare earth quadrupolar effects, 595
Rare earths
laser spectroscopy of rare earth-doped glass waveguides, 15
luminescence of Dy^{3+} enhanced by sensitization, 103
nitride chlorides of the early lanthanides: $[M_2N]Cl_3$ (M = La–Nd), 171
structural characterization and magnetic susceptibility of Ba_2RIrI_6 distorted perovskites (R = rare earth), 212
effect of the rare earth substitution on the optical phonons of $LaRBaCuO_5$ (R = Nd and Eu) oxides, 216
ferromagnetic rare earth–copper heteronuclear complexes $R_2Cu_3(HBen)_3 \cdot 6H_2O \cdot 4DMF$, 234
separation of rare earth metals using a supported liquid membrane with DTPA, 288
cleaning rare earth elements from actinium, 320
the thermodynamic properties of rare earth metallic systems, 409
industrial applications of rare earths: which way for the end of the century?, 520
optical materials containing rare earth Ln_2S_3 sulfides, 567
crystal field phenomena in rare earth cuprates, 578
the global rare-earth cycle, 609
Recombination processes
excitation and recombination processes of Yb in InP and InAsP, 564
Reduction
new ternary selenides of lanthanides prepared by reduction of the sesquiselenides, 178
Relative stability
size effect in rare earth stabilization of $Bi_2BaLnCuO_{6+\delta}$ family, 604
RE–Vc compound
influence of rare earth–vitamin C compound on the growth of livestock and poultry, 626

Saccharinates
studies on saccharinates I. Synthesis and some properties of rare earth saccharinate hydrates, 377
Samarium structure
complexes between lanthanide picrates and *N,N*-dimethylacetamide (DMA). Synthesis, characterization and structure of the samarium compound, 350
Scandium impurities
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
Scandium picrate
scandium picrate complex with *trans*-1,4-dithiane-1,4-dioxide, 357
Scintillators
luminescent materials: is there still news?, 529
Selective catalysis
selective catalysis by lanthanides dispersed on supports (silica, alumina and active carbon), 629
Self-assembly
self-assembly of helical supramolecular lanthanide complexes, 324
Self-interaction corrections
on the spatial origin of crystal electric fields in $SmCo_5$, 469
Self quenching
spectral-luminescent properties of Tm:YLF crystal, 129
Separation
separation of rare earth metals using a supported liquid membrane with DTPA, 288
cleaning rare earth elements from actinium, 320
the influence of mixed ligand complex formation on the separation of volatile neodymium and calcium dipivaloylmethanates by vacuum sublimation, 390
Sesquiselenides
new ternary selenides of lanthanides prepared by reduction of the sesquiselenides, 178
Silica
selective catalysis by lanthanides dispersed on supports (silica, alumina and active carbon), 629
Silica gel
photophysical properties of Ce^{3+}:Tb^{3+} supported on silicas and zeolites, 63
Silicate oxyapatite
a study on the luminescence properties of Eu^{3+} and Dy^{3+} in $M_2RE_8(SiO_4)_6O_2$ (M = Mg, Ca; RE = Y, Gd, La), 120
Simulation
crystal-field effect in $CsCdBr_3$:Pr, 95
Sm_2In
magnetic susceptibility of Sm_2In: theory and experiment, 461

SMSI effect
the terbium oxide as support of highly dispersed metals. Study of the Rh/TbO_x catalytic system, 633
Sodium dioxoneptunyl carbonates
solid–liquid equilibria of neptunium(V) in carbonate solutions of different ionic strengths: II. Stability of the solid phases, 295
Sol–gel
sol–gel synthesis and characterization of superconducting $(Y_{1-x}Eu_x)Ba_2(Cu_{1-y}{}^{57}Fe_y)_4O_8$ samples, 586
Solid electrolyte
optical and magnetic investigations of Na^+/Pr^{3+}-β''-Al_2O_3, 152
Solid solutions
comparative study of the magnetic properties of the Yb(Gd)Te, La(Gd)Te and (La,Y)(Gd)Te solid solutions, 159
Mössbauer effect and magnetization studies of mixed valence solid solution $NpOH \cdot NpH_{2-x}$, 166
X-ray powder diffraction and vibrational study of the solid solutions in $(La_{1-x}RE_x)OCl$ (RE = Gd and Y), 193
Solubility
solid–liquid equilibria of neptunium(V) in carbonate solutions of different ionic strengths: II. Stability of the solid phases, 295
Sparkle model
sparkle model for the quantum chemical AM1 calculation of europium complexes of coordination number nine, 55
Spectra
emission spectrum of $Cs_2AgEuCl_6$, 60
Spectroscopy
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
Spin–orbit coupling
intermultiplet transitions in optically opaque $EuBa_2Cu_3O_7$: an inelastic neutron scattering study, 591
Stability
stability, structure and fluorescence spectra of high-pressure-treated Eu^{2+} iodides, 174
Stainless steel
lanthanide salts as alternative corrosion inhibitors, 638
Storage phosphors
X-ray storage phosphors, their properties and mechanism, 539
Structural order
neutron diffraction on YFe_5Al_7 as reference of the f-magnetism of isostructural rare earth–iron–aluminium compounds, 440
Structure
does Ce^{4+} play a role in the luminescence of $LaPO_4$:Ce?, 124
stability, structure and fluorescence spectra of high-pressure-treated Eu^{2+} iodides, 174
structure and optical properties of $KGd(CO_3)F_2$:Eu, 198
synthesis, structure and properties of volatile lanthanide pivalates, 396
synthesis, thermogravimetry and X-ray analysis of uranyl benzoate and butyrate derivatives, 400
Sublimation
the influence of mixed ligand complex formation on the separation of volatile neodymium and calcium dipivaloylmethanates by vacuum sublimation, 390
the volatile rare earth element tetrakis-acetylacetonates, 393
Substituents
the influence of substituents on the luminescence properties of the Eu(III) and Tb(III) chelates of 4-(phenylethynyl)-pyridine derivatives, 511
Sulphate radical
X-ray irradiation-induced optical luminescence of terbium(III) chelates in aqueous solutions, 279
Sulphides
optical materials containing rare earth Ln_2S_3 sulfides, 567
Superconductivity
superconductivity and magnetism in quaternary F (F = Y or f elements) transition metal borocarbides and magnetic properties of RNi_4B (R = Y or rare earth), 571
crystal field phenomena in rare earth cuprates, 578
Superconductors
sol–gel synthesis and characterization of superconducting $(Y_{1-x}Eu_x)Ba_2(Cu_{1-y}{}^{57}Fe_y)_4O_8$ samples, 586
Supported liquid membrane
separation of rare earth metals using a supported liquid membrane with DTPA, 288
Supported rhodium catalyst
the terbium oxide as support of highly dispersed metals. Study of the Rh/TbO_x catalytic system, 633
Supramolecules
self-assembly of helical supramolecular lanthanide complexes, 324
Synthesis
synthesis, thermal decomposition, magnetic properties and vibrational study of the series $Ln(OH)CrO_4$ (Ln = Y,DY–Lu), 237
synthesis and characterization of a tetramethylurea adduct of a biscyclopentadienyl ytterbium(II) complex: X-ray crystal structure of $YbCp_2 \cdot 2TMU$, 331
synthesis, structure and properties of volatile lanthanide pivalates, 396

Tb(III) chelates
X-ray irradiation-induced optical luminescence of terbium(III) chelates in aqueous solutions, 279
Tb(III) chelate chemiluminescence induced by the dissolution of additively coloured potassium chloride in aqueous solutions of peroxydisulphate ions, 492
terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate enhanced lyoluminescence of X-ray irradiated sodium chloride, 497
mechanism of electrogenerated luminescence of terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate at an oxide-covered aluminium electrode, 502
Tellurium
^{125}Te Mössbauer spectroscopy study of some rare-earth monotelluride based solid solutions, 185
Temperature dependence
anomalous temperature dependence of the lattice parameters in $HoPO_4$ and $HoVO_4$: rare earth quadrupolar effects, 595
Terbia
the terbium oxide as support of highly dispersed metals. Study of the Rh/TbO_x catalytic system, 633
Terbium
studies of neodymium, europium and terbium picrate complexes with benzyl-*t*-butyl sulphoxide, 344
lattice location and magnetism of Fe and Sc impurities in Gd and Tb single crystals, 456
synthesis and luminescence properties of some Eu(III) and Tb(III) chelate labels having 2,2′:6′,2″-terpyridine as an energy absorbing part, 507
the influence of substituents on the luminescence properties of the Eu(III) and Tb(III) chelates of 4-(phenylethynyl)-pyridine derivatives, 511
optical properties of CaS:Tb grown by atomic layer epitaxy, 544
Terbium compounds
a.c. susceptibility studies of the UM_2Ge_2, TbM_2Ge_2, and HoM_2Ge_2 compounds (M = Co, Ni, Cu), 156

Ternary lanthanide chalcogenides
magnetic and structural characterization of $TlLnSe_2$ compounds (Ln = Nd to Yb), 181
Terpyridine
synthesis and luminescence properties of some Eu(III) and Tb(III) chelate labels having 2,2′:6′,2″-terpyridine as an energy absorbing part, 507
Tetrakis-acetylacetonate complexes
the volatile rare earth element tetrakis-acetylacetonates, 393
Tetramethylurea
synthesis and characterization of a tetramethylurea adduct of a biscyclopentadienyl ytterbium(II) complex: X-ray crystal structure of $YbCp_2 \cdot 2TMU$, 331
Thermal analysis
thermal behaviour and characterization of sodium 7-(hydroxyimino)-8-oxo-quinoline-5-sulphonate and its bis-complex with dioxouranium(VI), 316
studies of neodymium, europium and terbium picrate complexes with benzyl-*t*-butyl sulphoxide, 344
synthesis and structure of tributylammonium hexanitrate lanthanum, 385
synthesis, thermogravimetry and X-ray analysis of uranyl benzoate and butyrate derivatives, 400
Thermal decomposition
synthesis, thermal decomposition, magnetic properties and vibrational study of the series $Ln(OH)CrO_4$ (Ln = Y,DY–Lu), 237
Thermally-induced sintering
sintering in colloidal particles of rare earth hydroxycarbonate and its decomposition products, 190
Thermochemistry
some regularities in the thermochemistry of alloying of rare earths with late 3d-transition metals, 474
Thermodynamic properties
the thermodynamic properties of rare earth metallic systems, 409
Thin-film electroluminescence
multicolour thin film electroluminescent displays: a new application of rare earth metals, 552
Thiocyanato complexes
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338
Thulium
luminescence and dynamics in Tm^{3+}:$NaYF_4$, 107
Time-resolved fluorometry
luminescent lanthanide chelates—a way to more sensitive diagnostic methods, 480
Time-resolved solid state reactions
the evolution of a thin, amorphous neodymium hydroxide film to the C-type oxide—an HREM study, 139
Transferrin
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48
Transition intensities
the role of molecular dynamics in the f–f transition intensities in lanthanide compounds, 52
direct calculation of lanthanide optical transition intensities Nd^{3+}:YAG, 115
Transition metal borocarbides
superconductivity and magnetism in quaternary R (R = Y or f elements) transition metal borocarbides and magnetic properties of RNi_4B (R = Y or rare earth), 571
Tributylammonium hexanitrate
synthesis and structure of tributylammonium hexanitrate lanthanum, 385
Trifluoromethanesulfonate
emission spectra of europium(III) complexes with 4-methylmorpholine-*N*-oxide, 347
Triple helical complexes
self-assembly of helical supramolecular lanthanide complexes, 324
Tripositive lanthanide ions
comparative energy level parametrizations for lanthanide ions in octahedral symmetry environments, 85
Tumor necrosis factor
effect of Kupffer cell phagocytosis blockade induced by gadolinium chloride and carrageenan on endotoxin sensitivity, tissue localization of endotoxin and TNF production, 623

Uranium compounds
a.c. susceptibility studies of the UM_2Ge_2, TbM_2Ge_2, and HoM_2Ge_2 compounds (M = Co, Ni, Cu), 156
Uranium(III) complexes
synthesis, structural and spectroscopic properties of tetra(tetraethylammonium) heptaisothiocyanato uranate(III) and neodymate(III), 338
Uranyl
synthesis, thermogravimetry and X-ray analysis of uranyl benzoate and butyrate derivatives, 400

Vaporization
dependence of the vaporization behavior of actinide oxides on the electronic nature of the actinide atoms, 142
Vibrational spectra
synthesis, thermal decomposition, magnetic properties and vibrational study of the series $Ln(OH)CrO_4$ (Ln = Y,DY–Lu), 237
Vibrational spectroscopy
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48
Vibronic coupling
chirality effect on spectroscopy of dimeric lanthanide single crystals, 372
Vibronic spectra
comparative energy level parametrizations for lanthanide ions in octahedral symmetry environments, 85
Vibronic spectroscopy
vibronic rare earth spectroscopy: results and pitfalls, 24
Video-recorded HREM images
the evolution of a thin, amorphous neodymium hydroxide film to the C-type oxide—an HREM study, 139
Volatility
synthesis, structure and properties of volatile lanthanide pivalates, 396

Water exchange
solution kinetic behaviour of lanthanide (III) polyaminocarboxylates from oxygen-17 NMR studies, 246

X-ray crystallography
the preparation and characterization of monomeric lanthanide tetraphenylporphyrin crystals, $[Ln(tpp)acac \cdot 3TCB \cdot 8H_2O]$ (Ln = Gd, Sm), 363
X-ray diffraction
studies on saccharinates I. Synthesis and some properties of rare earth saccharinate hydrates, 377
structural study of YMn_2 hydrides, 436
electron density distribution in $Nd_{2-x}Ce_xCuO_{4-\delta}$, 599

X-ray fluorescence study
on the hybridization of Ce 4f states in CeF_3 and CeO_2: a near-threshold excitation X-ray fluorescence study, 230
X-ray irradiated sodium chloride
terbium(III)-{2,6-bis[*N*,*N*-bis(carboxymethyl)aminomethyl]-4-benzoylphenol} chelate enhanced lyoluminescence of X-ray irradiated sodium chloride, 497
X-ray phosphors
luminescent materials: is there still news?, 529
X-ray powder diffraction
study of the crystal field effect in REOF:Eu^{3+} (RE = La, Gd and Y) using optical spectroscopy and X-ray powder diffraction, 89
X-ray powder diffraction and vibrational study of the solid solutions in $(La_{1-x}RE_x)OCl$ (RE = Gd and Y), 193
X-ray structural analysis
scandium picrate complex with *trans*-1,4-dithiane-1,4-dioxide, 357
X-ray structures
sparkle model for the quantum chemical AM1 calculation of europium complexes of coordination number nine, 55
optical spectroscopy and structure of neodymium complexes with 2,6-pyridine-dicarboxylic acid in solution and single crystal at room and low temperatures, 367

Ytterbium
use of near-infrared Yb^{3+} vibronic side band spectroscopy to probe protein metal-binding sites, 48
Yttrium–iron–aluminium
neutron diffraction on YFe_5Al_7 as reference of the f-magnetism of isostructural rare earth–iron–aluminium compounds, 440

Zeolites
photophysical properties of Ce^{3+}:Tb^{3+} supported on silicas and zeolites, 63